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## Nata

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LumCAT: 2-1567-M	
Luminaire: BJB 47.319.2021	
Report No: 20170510002-1	Voltage(V): 218.3000
Test No: 20170510002	Current(A): 0.1030
LampCAT: CITIZEN CLU036	Power (W): 20.4000
Lamp flux(lm): 2279.0	PF: 0.9060
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

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## Photometric Results

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Lumens(lm): 2092.02  
Efficiency(%): 91.80%  
Lumens(lm)/Power(W): 102.55  
Central intensity(cd): 6685.223  
Maximum intensity(cd): 6685.223  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=26.4  
                                  [C90/270]Total=26.4  
Field angle(10%Imax): [C0/180]Total=64.2  
                                  [C90/270]Total=64.2  
Maximum s/h(1/2): C0\_180=0.45 C90\_270=0.45  
Maximum s/h(1/4): C0\_180=0.45 C90\_270=0.45  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 93.46%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.112%

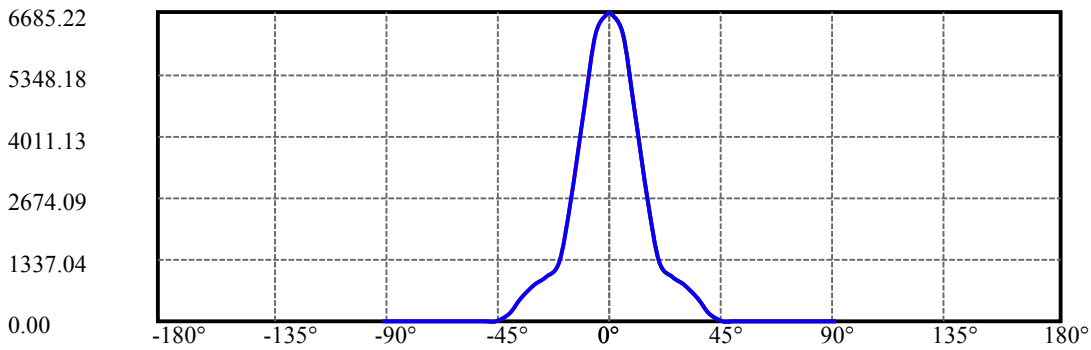
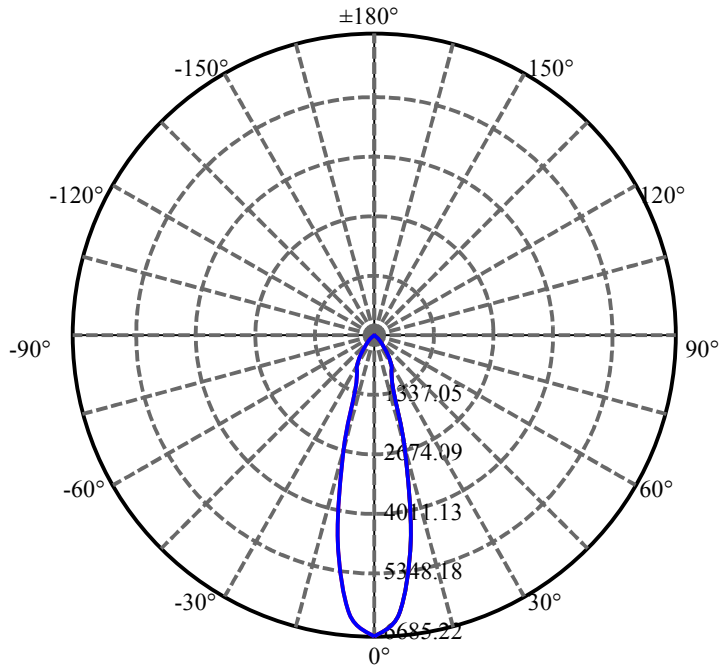
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6685.223	39.979	39.979	1.754%	1.911%
5.0	6209.674	296.657	336.636	13.017%	16.091%
10.0	4621.778	439.915	776.551	19.303%	37.120%
15.0	2625.227	372.437	1148.987	16.342%	54.922%
20.0	1303.295	244.334	1393.321	10.721%	66.602%
25.0	946.268	219.206	1612.527	9.619%	77.080%
30.0	789.289	216.319	1828.846	9.492%	87.420%
35.0	502.768	158.070	1986.916	6.936%	94.976%
40.0	174.343	61.427	2048.343	2.695%	97.912%
45.0	18.520	7.178	2055.521	.315%	98.255%
50.0	11.011	4.624	2060.145	.203%	98.476%
55.0	9.318	4.184	2064.329	.184%	98.676%
60.0	8.795	4.175	2068.504	.183%	98.876%
65.0	8.437	4.192	2072.696	.184%	99.076%
70.0	8.210	4.229	2076.925	.186%	99.278%
75.0	8.066	4.270	2081.195	.187%	99.482%
80.0	7.997	4.317	2085.512	.189%	99.689%
85.0	7.949	4.340	2089.852	.190%	99.896%
90.0	7.914	2.169	2092.021	.095%	100.000%

## ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1828.85	80.25%	87.42%
0-40	2048.34	89.88%	97.91%
0-60	2068.50	90.76%	98.88%
0-90	2089.85	91.70%	99.90%
0-120	2089.85	91.70%	99.90%
0-180	2092.02	91.80%	100.00%
60-90	25.52	1.12%	1.22%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-26.41	1673.62	73.44%	80.00%

## ZONAL LUMEN SUMMARY

0-10	776.55
10-20	616.77
20-30	435.53
30-40	219.50
40-50	11.80
50-60	8.36
60-70	8.42
70-80	8.59
80-90	4.34
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



C0(Max): —————

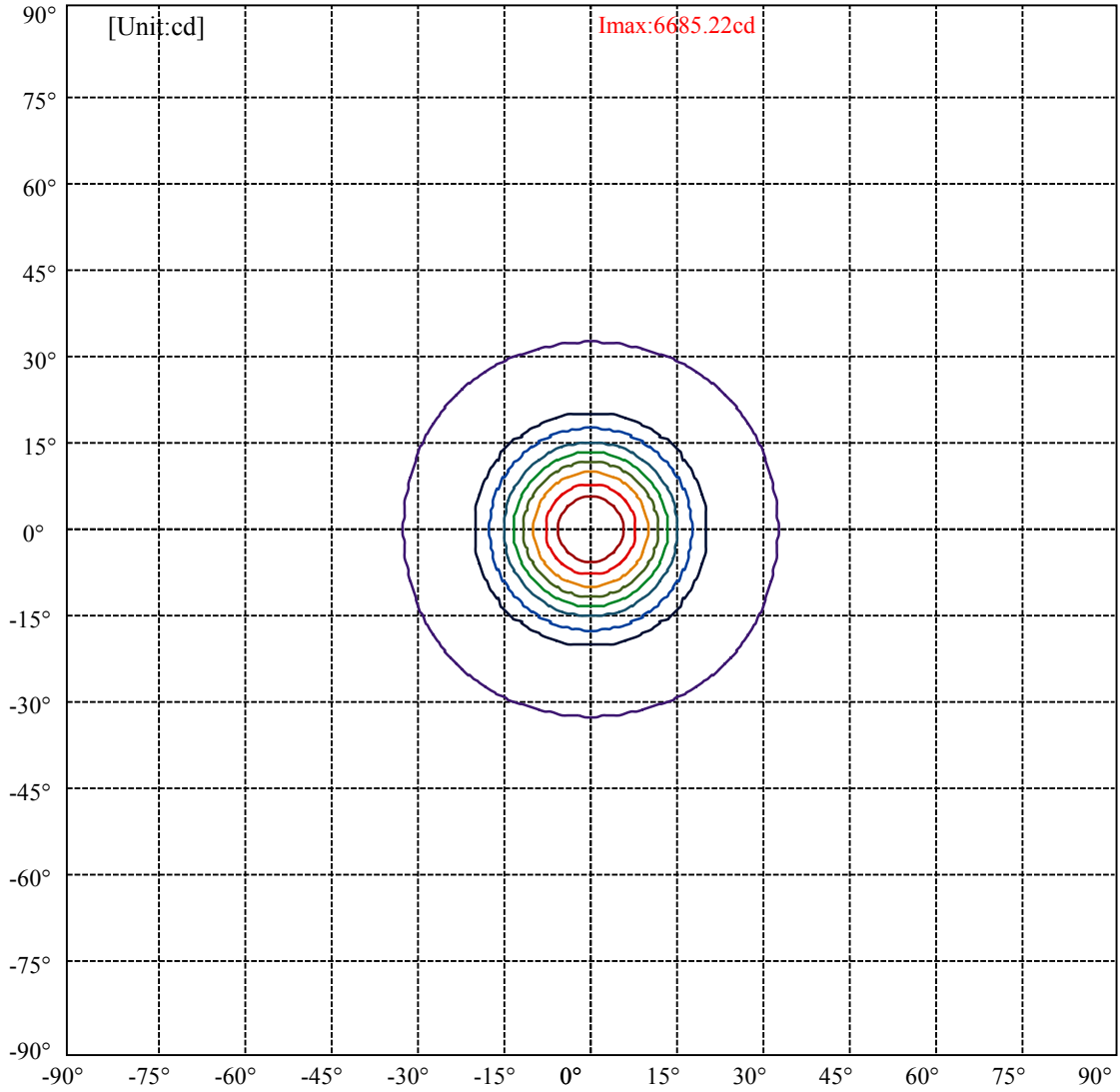
C0/C180: —————

C90/C270: —————

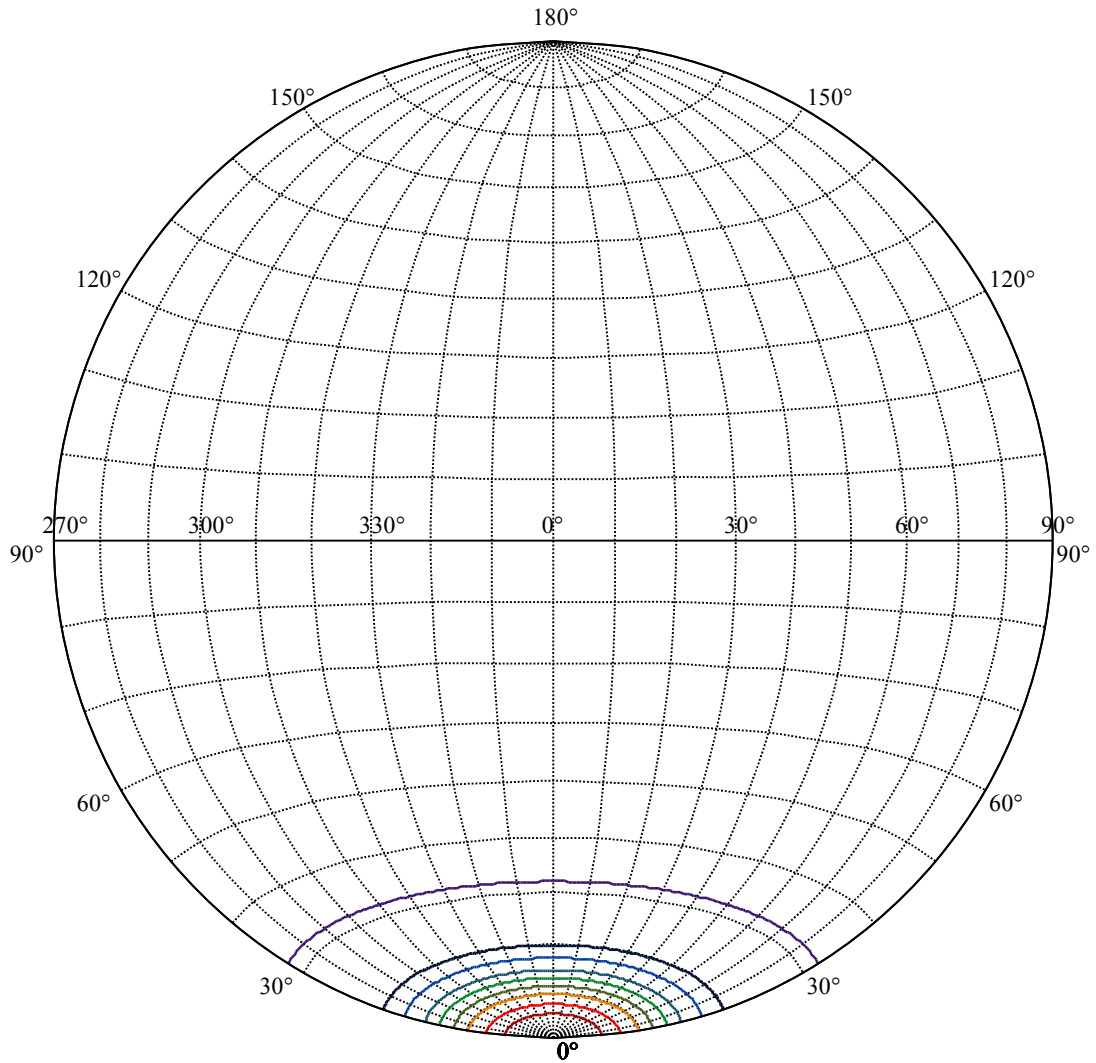
Field angle(10%Imax):C0/180Left:32.1 Right:32.1  
:C90/270Left:32.1 Right:32.1

Beam Angle(50%Imax):C0/180Left:13.2 Right:13.2  
:C90/270Left:13.2 Right:13.2





(10%Imax) 668.522	—
(20%Imax) 1337.04	—
(30%Imax) 2005.57	—
(40%Imax) 2674.09	—
(50%Imax) 3342.61	—
(60%Imax) 4011.13	—
(70%Imax) 4679.66	—
(80%Imax) 5348.18	—
(90%Imax) 6016.7	—



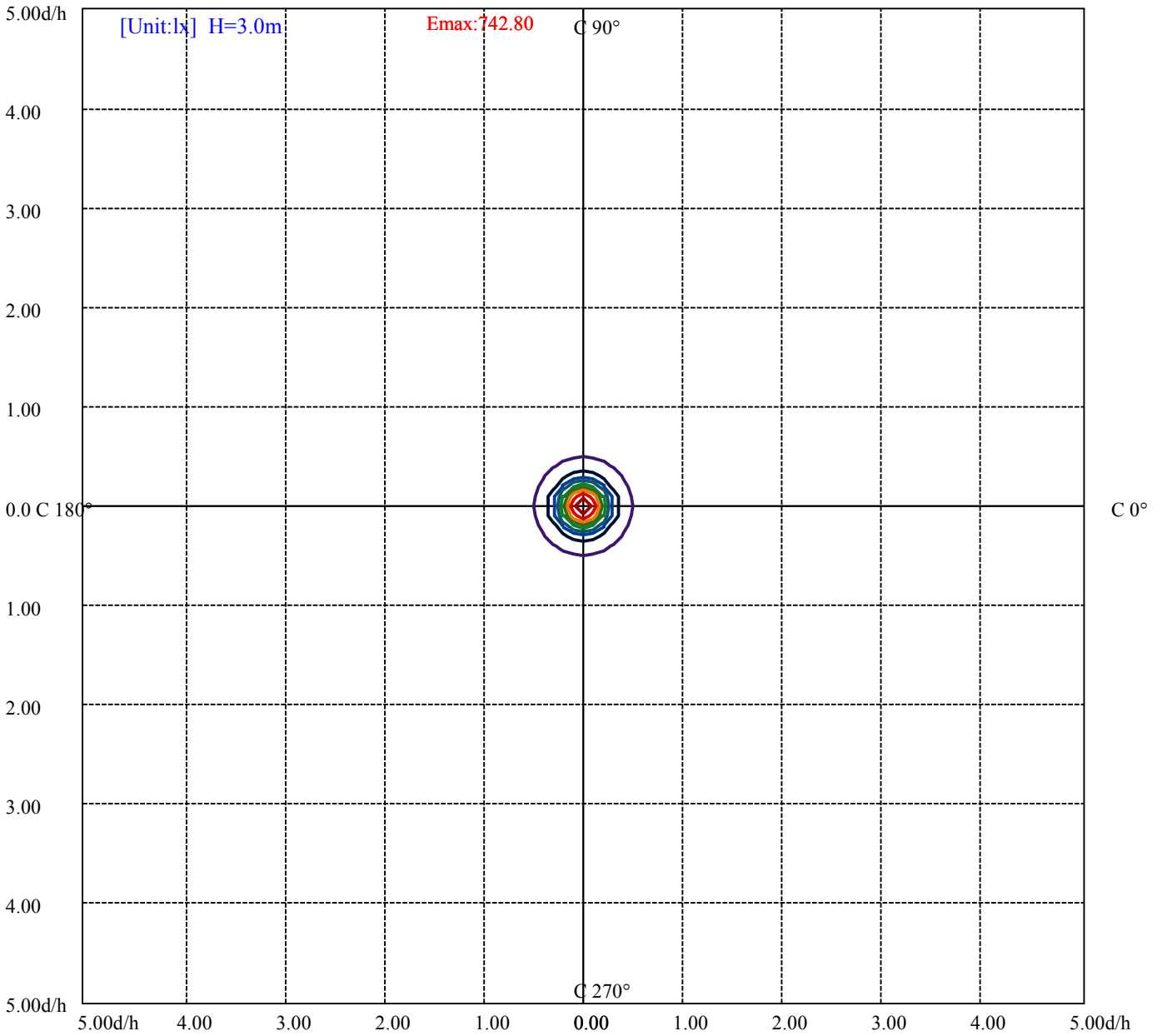
House

[Unit:cd]

Road

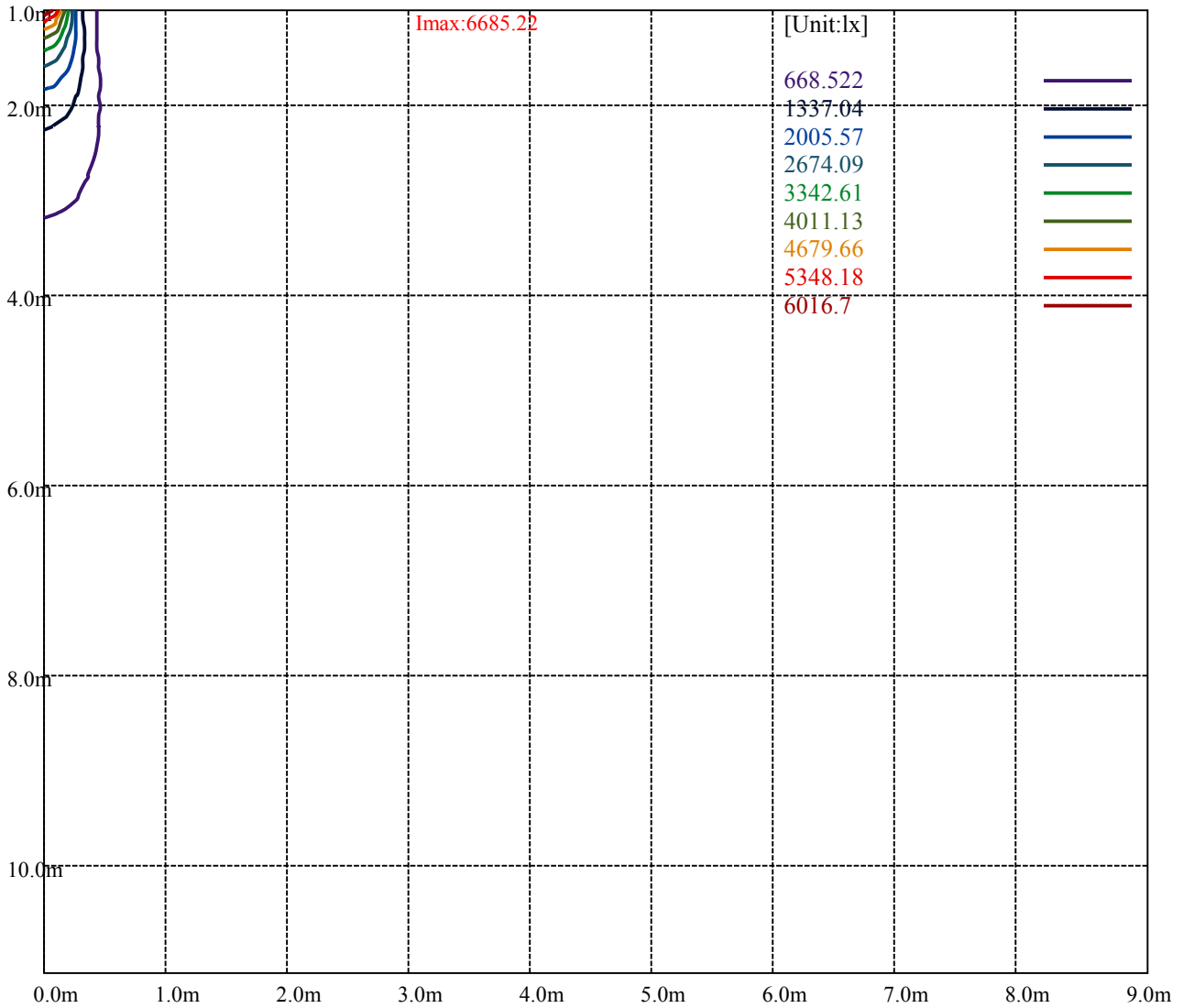
**Imax:6685.22**

(10%Imax) 668.522	—
(20%Imax) 1337.04	—
(30%Imax) 2005.57	—
(40%Imax) 2674.09	—
(50%Imax) 3342.61	—
(60%Imax) 4011.13	—
(70%Imax) 4679.66	—
(80%Imax) 5348.18	—
(90%Imax) 6016.7	—



- (10%Emax) 74.28011
- (20%Emax) 148.56
- (30%Emax) 222.84
- (40%Emax) 297.12
- (50%Emax) 371.4
- (60%Emax) 445.6811
- (70%Emax) 519.9611
- (80%Emax) 594.2411
- (90%Emax) 668.5211





Luminance Table

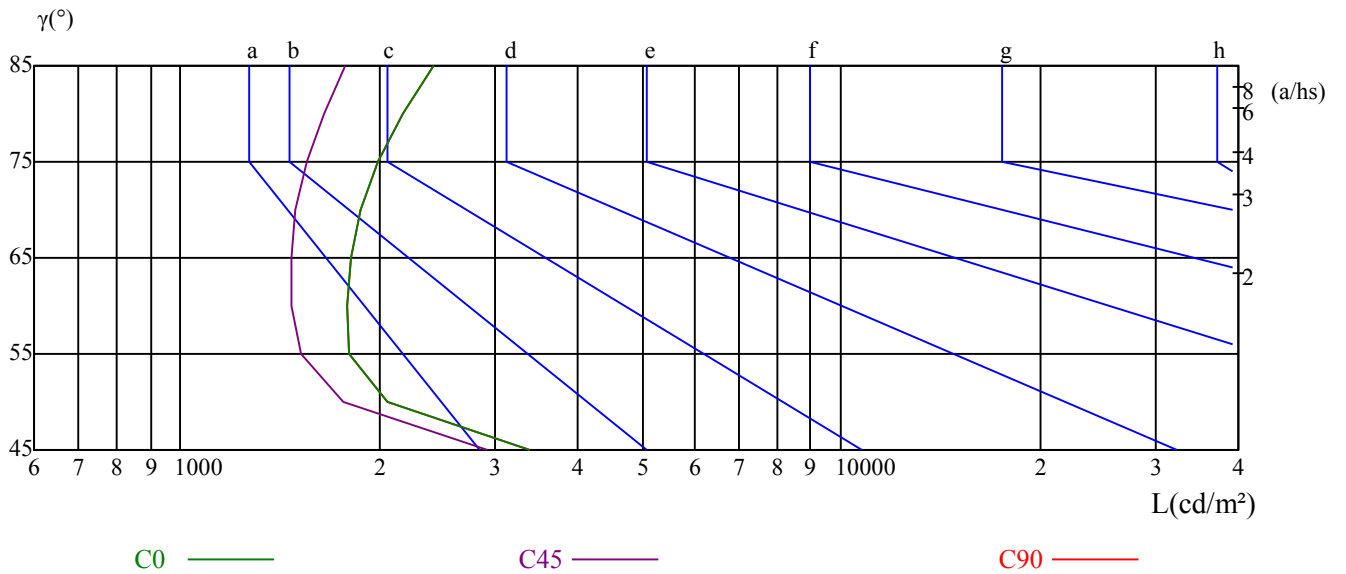
$\gamma$	45	50	55	60	65	70	75	80	85
C0	3371	2059	1805	1782	1806	1878	1996	2175	2419
C45	2923	1759	1519	1474	1468	1496	1554	1650	1778
C90	3371	2059	1805	1782	1806	1878	1996	2175	2419

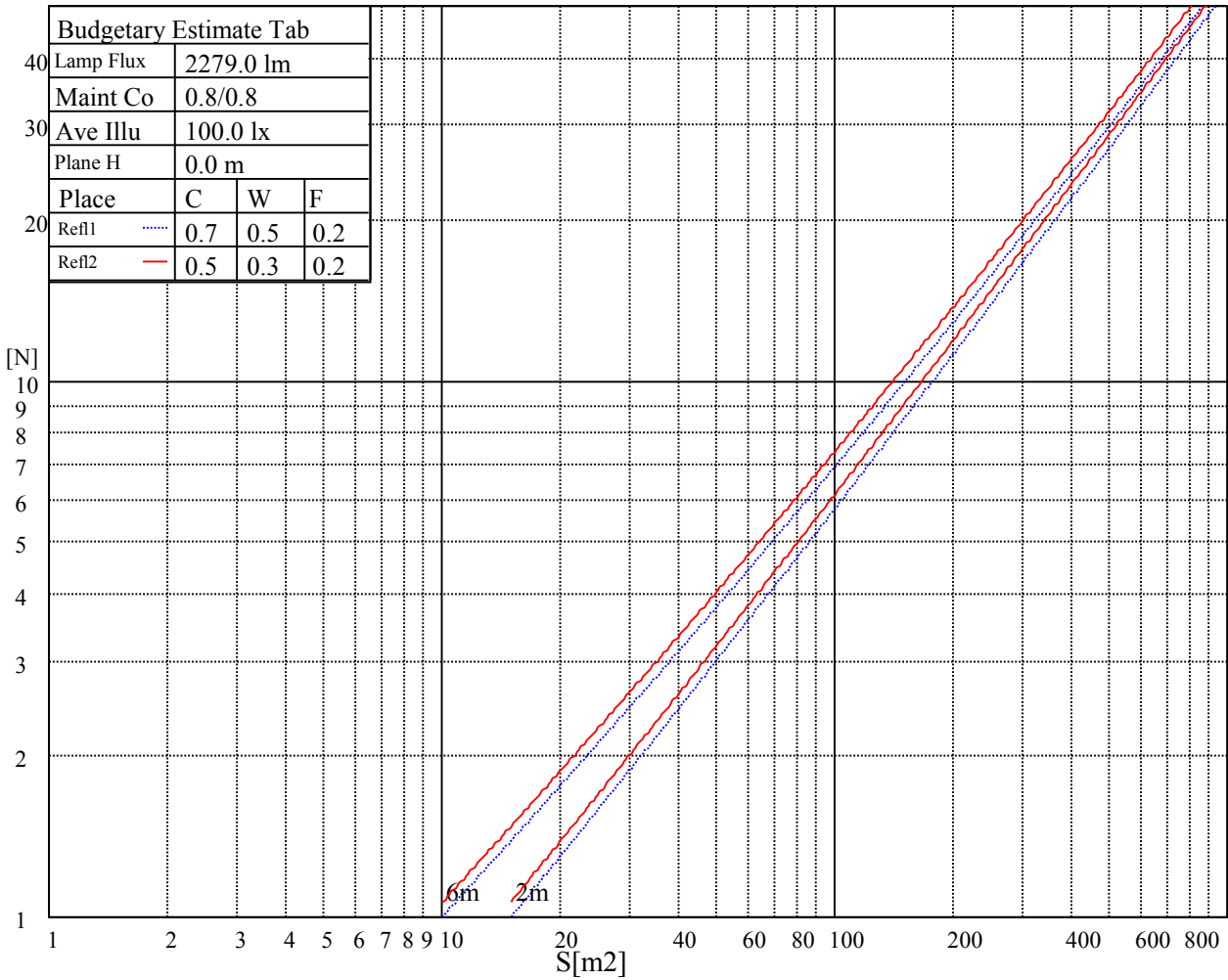
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4074	4074	4074	6360	6360	6360	18613	18613	18613

Glare Table

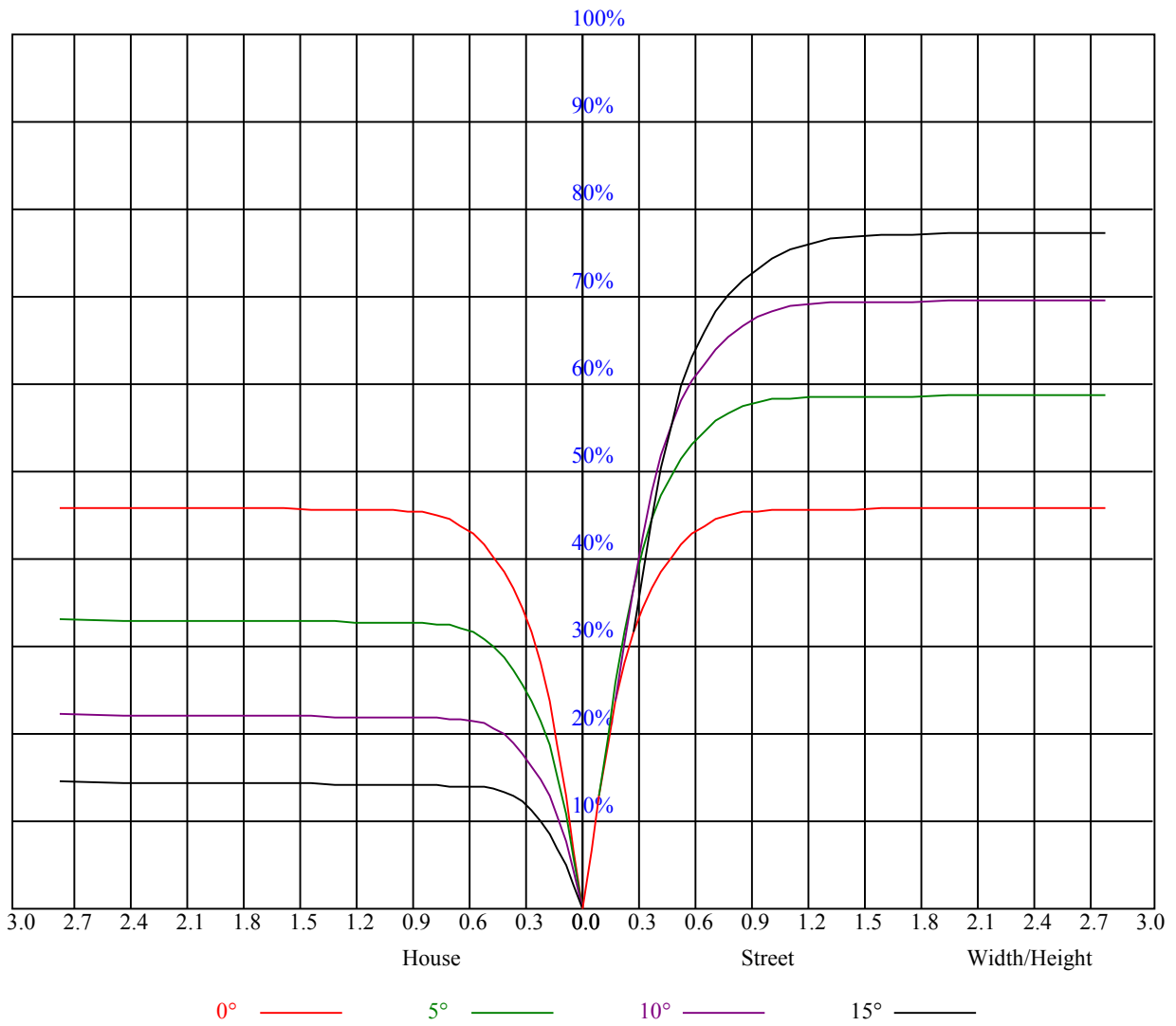
Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.11	1.11	1.11	1.09	1.09	1.09	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.03	1.00	0.98	1.01	0.98	0.96	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.86
2	0.97	0.94	0.91	0.96	0.92	0.90	0.93	0.90	0.88	0.90	0.88	0.86	0.87	0.85	0.84	0.82
3	0.92	0.88	0.85	0.91	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.84	0.82	0.80	0.79
4	0.88	0.84	0.80	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.81	0.78	0.82	0.79	0.77	0.76
5	0.85	0.80	0.77	0.84	0.79	0.76	0.82	0.78	0.76	0.81	0.77	0.75	0.79	0.77	0.74	0.73
6	0.81	0.77	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
7	0.78	0.74	0.70	0.78	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.75	0.72	0.69	0.68
8	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.66
9	0.73	0.69	0.66	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.64
10	0.71	0.66	0.63	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.62



Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	6702.57	6597.96	5338.82	3226.86	1586.17	1022.40	840.71	640.31	297.30
45.0	6620.53	6607.32	5554.09	3713.55	1739.23	1046.62	863.83	683.25	302.26
90.0	6698.71	6186.14	4703.47	2622.34	1215.09	944.22	792.10	513.73	161.54
135.0	6719.08	6210.36	4636.85	2521.58	1265.20	938.71	785.65	491.10	282.44
180.0	6702.57	5967.01	3997.65	1957.26	1080.98	883.71	731.53	381.87	57.31
225.0	6620.53	5600.89	3715.76	1828.42	1088.58	858.71	703.51	309.36	36.45
270.0	6698.71	6202.65	4446.91	2558.47	1243.17	924.95	793.36	492.75	114.79
315.0	6719.08	6305.06	4580.69	2573.34	1207.94	950.82	803.60	509.77	142.65
360.0	6702.57	6597.96	5338.82	3226.86	1586.17	1022.40	840.71	640.31	297.30

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	22.74	12.28	9.69	9.03	8.59	8.37	8.20	8.09	7.98
45.0	24.22	13.38	9.80	9.03	8.64	8.26	8.09	7.98	7.93
90.0	18.33	11.23	9.25	8.75	8.37	8.09	7.98	7.93	7.87
135.0	18.06	10.30	9.25	8.81	8.42	8.20	8.04	8.04	7.98
180.0	14.53	10.02	9.14	8.70	8.42	8.26	8.15	7.98	8.09
225.0	13.82	9.74	9.03	8.59	8.31	8.09	7.98	7.98	7.93
270.0	17.29	10.35	9.19	8.75	8.37	8.20	8.04	7.98	7.93
315.0	19.16	10.79	9.19	8.70	8.37	8.20	8.04	7.98	7.87
360.0	22.74	12.28	9.69	9.03	8.59	8.37	8.20	8.09	7.98

C/γ(°)	90.0
0.0	8.04
45.0	7.93
90.0	7.87
135.0	7.87
180.0	7.98
225.0	7.87
270.0	7.87
315.0	7.87
360.0	8.04